JUNE 1956

FIREMEN

SIXTY-FIRST YEAR • NATIONAL FIRE PROTECTION ASSOCIATION

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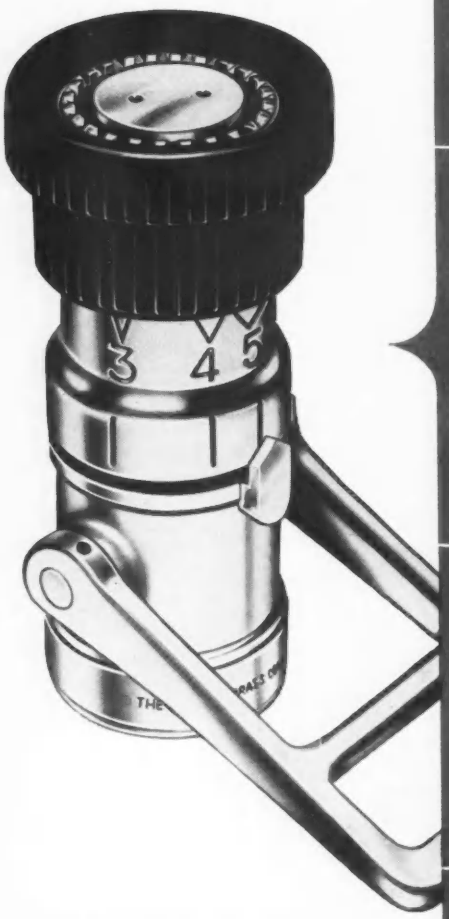
5 REASONS

WHY THE NEW WOOSTER VARI-A-FOG

FIGHTS FIRES BETTER ON ALL SIZES OF HOSE



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1

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When purchasing Vari-A-Fog Nozzles, you can specify the G.P.M. discharge to suit your water availability and hose lay practice. For example 125, 100 and 75 G.P.M. are regularly available in the 1½ size. These ratings are in the 30° fog (#3 position) at 100 lbs. nozzle pressure. A choice of G.P.M. ratings is also available in the ¾", 1" and 2½" sizes.

2

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3

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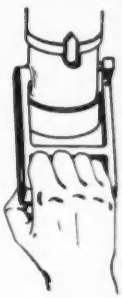

5

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TO: Mrs. O'Leary
SUBJECT: Publicity on cow

1. While your cow is generally credited with kicking up a ruckus that started the Great Chicago Fire of 1871, it is extremely doubtful whether such incendiary activity would get you any notices at all in 1956.

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Neil Miller
Treasurer

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Thousands of warehousemen and other business executives from coast to coast strongly endorse ADT *Automatic* Protection because they know that it provides greater security for property, profits, customers' goods and employees' jobs than other methods, *and at less expense.*

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A NATIONWIDE ORGANIZATION

Executive Offices: 155 Sixth Avenue, New York 13, N. Y.

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1 **CALL REPORT**—GRASS AND BRUSH FIRE
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Fire confined to one wing. Left 3XD to pump out basement and a good thing--had another call on arrival at station.

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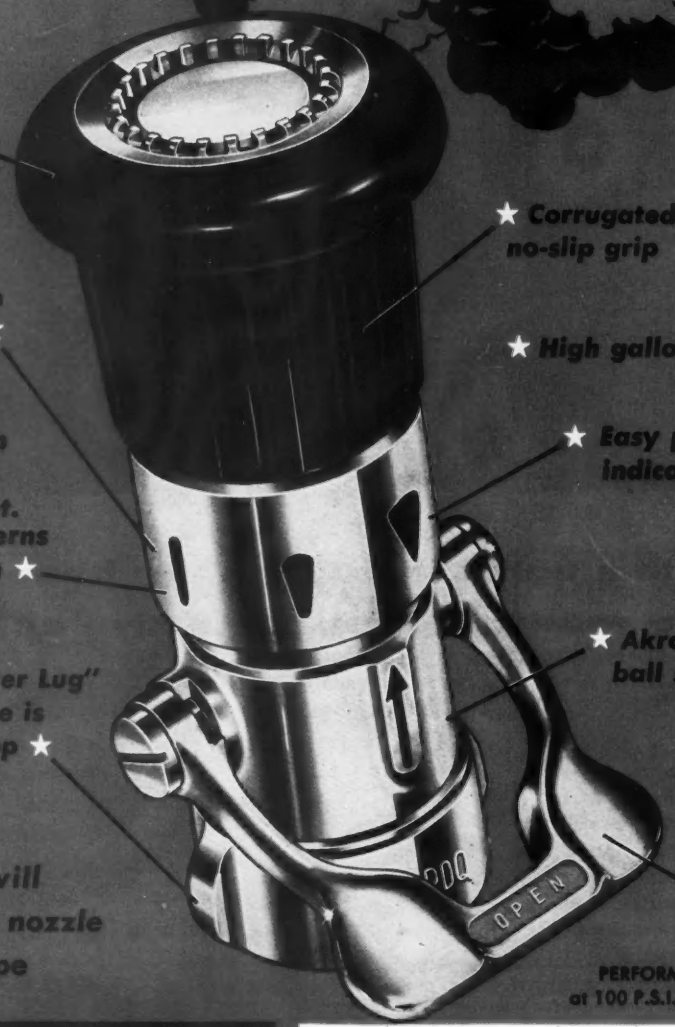

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1218	1½"	95	72.00	76.50
1219	1½"	125	72.00	76.50
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1239	2½" Dir. Con.	250	92.00	97.50
1249	2½" with PP	250	102.00	115.50

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Firemen

Volume 23 Number 6

WARREN Y. KIMBALL, EDITOR
PAUL R. LYONS, ASSOCIATE EDITOR
HENRY S. GERE, ADVERTISING MANAGER

Published monthly for the fire service members of the
NATIONAL FIRE PROTECTION ASSOCIATION

A VOLUNTARY NON-PROFIT ORGANIZATION
60 BATTERYMARCH ST., BOSTON 10, MASS.

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Cover Picture

Approximately 250 persons were evacuated from the Adelon Hotel, Long Beach, New York, when fire started in the basement on Friday evening, May 4. It apparently burned for some time before discovery and hotel personnel tried to put it out before notifying the Long Beach Fire Department. The fire spread up a laundry chute to the roof, then "mushroomed." Long Beach's Chief Nick Green received assistance from Point Lookout, Island Park, Oceanside, Freeport and Baldwin fire departments of the Second Battalion District of Nassau County. Control was established within two hours. Fire loss was estimated at more than $200,000. (*Cover photo by Drennan Photo Service.*)

On Safety Belts

Since publication of an article in the December, 1955, issue of FIREMEN, describing the use of safety belts on apparatus of the Baltimore, Maryland, Fire Department, the editors of this publication have received a number of news items and letters on this subject.

The most forceful message, however, was received from Chief Lester R. Schick of the Davenport, Iowa, Fire Department. Fire department members who are not convinced of the protection afforded by seat belts, perhaps will change their minds after reading Chief Schick's letter, reprinted below.

Mr. Warren Kimball, Editor April 27, 1956
FIREMEN
Boston, Mass.

Dear Warren:

Enclosed please find picture of my 1955 Mercury Chief's car, after an accident and terrible tragedy in which a friend of mine (a pedestrian) lost his life.

On Monday, April 23rd, while responding to an alarm, my car collided with another at an intersection in the western part of Davenport. I then crashed head-on with a telephone pole, snapping same off. The right front of the car then struck a tree three (3) feet in diameter.

I was able to jump from this car and assist in directing the emergency at the scene. I want to thank your publication and other fire service publications for this fact. I was uninjured though badly shaken.

Sixty days ago, after reading several articles relating to the installation of safety belts on fire apparatus, we made such installations on every unit in our department.

There is little doubt in my mind that I would have been unable to write this letter, as a result of serious injury or death, had my car not been equipped with safety belts.

I should like to urge every fire chief, charged with the responsibility of protecting his personnel, to seriously consider the installation of safety belts on all fire apparatus. I thank God that I made such a decision.

I also feel that this incident supports the reasoning that chiefs' cars should be of a heavier type, to protect occupants in case of accident.

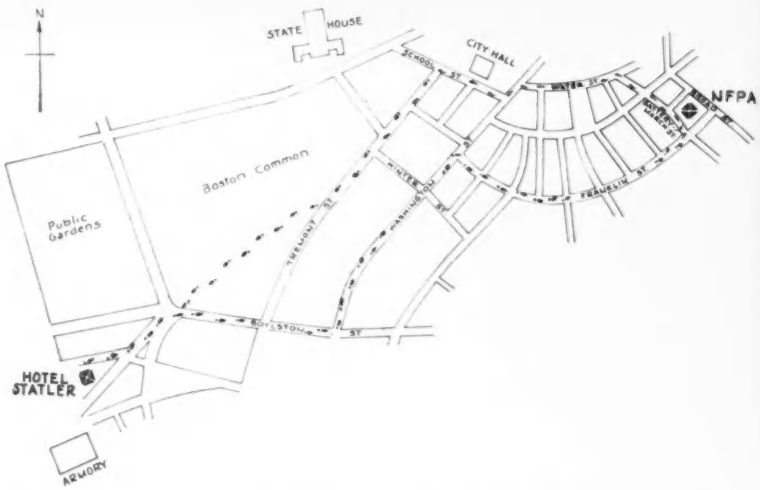
Again my sincere thanks for continually calling to our attention innovations that are a distinct asset to the fire service and fire service personnel.

With kindest personal regards,

Very truly yours,

LESTER R. SCHICK,
Chief, Fire Department
Davenport, Iowa

WELCOME to the 60th NFPA ANNUAL MEETING



Sketch of the heart of Boston showing the location of the Hotel Statler and the NFPA Executive Office.

THE Hotel Statler in Boston, Massachusetts, is headquarters for the 60th Annual Meeting of the National Fire Protection Association June 4–8. More than 1,000 NFPA members and guests will be visiting this historic city during one of the finest seasons. Top speakers of the fire service and industry are scheduled to take part in the general and technical sessions. Firemen in uniform may attend without paying the nominal registration fee.

Many fire chiefs and other representatives of the fire service from Eastern states will be particularly interested in the 5th general session scheduled for Thursday morning, June 7. This will feature the annual report on "Current Problems of the Fire Service" by the President of the International Association of Fire Chiefs. Chief William Fitzgerald of the Seattle, Washington, Fire Department now holds that office.

Of particular interest to fire department members will be a report by Boston's Fire Commissioner Francis X. Cotter who will describe the many changes and progressive techniques developed by that fire department during the past few years. Philadelphia's Fire Commissioner Frank McNamee will also appear on the morning program to describe how the fire department of his city developed the program which won top honors in last year's national Fire Prevention Week Contest (see February, 1956 FIREMEN).

Chief Keith Klinger of the Los Angeles County Fire Department also is scheduled to appear during this general session. In describing the activities of his fire department, Chief Klinger will explain how good fire prevention programs can bring dividends to fire departments in the form of improved public relations.

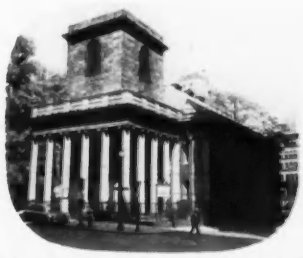
Complete programs of the 60th Annual Meeting may be obtained at the NFPA registration desk in the Hotel Statler. A number of informal social events will be included in the week's activities including special luncheons and tours for the ladies. Wednesday evening will feature the social highlight of the week when a special banquet will be held for the NFPA Sponsors Committee. James R. Killian, Jr., President of Massachusetts Institute of Technology will be the main speaker during the banquet.

On Friday afternoon a special bus trip has been arranged to take members and guests to the laboratories of Factory Mutual Engineering Division in Norwood, Massachusetts. Guests will have time to visit the many historic sites and famous restaurants in the "Hub of the Universe."

State House of Massachusetts is on Beacon Street, just above Boston Common.

Old North Church from where Paul Revere began his famous ride.

The swan boats on Boston Common are a thrill for youngsters and adults.



King's Chapel on Tremont Street is but one of many historic edifices in the vicinity.

Fire department headquarters, executive offices and well-equipped maintenance shops are located in this 5-year-old, $1,500,000 building on Southampton Street.

Boston fire fighters believe in quick and adequate laddering of fire involved buildings as demonstrated in this picture of action during a 4-alarm fire in a mercantile building.

HIGHLIGHTS OF THE BOSTON FIRE DEPARTMENT

The Department recently placed five of these new squad units in service. For complete description see FIREMEN for January, 1955.

One of the largest fire apparatus stations in the country is the Bowdoin Square station. It was built in 1930 at a cost of $700,000.

Francis Xavier Cotter
Fire Commissioner
Boston, Mass.

Two new 100-ft. steel aerial ladders have just been placed in service by the Department. They are Ladder 8 and Ladder 17, both of which will operate in the high value district of the City.

John V. Stapleton
Fire Chief
Boston, Mass.

MAKING A GOOD JOB OF IT

BY WARREN Y. KIMBALL

Headquarters Fire Staff

There are a lot of different jobs in the fire department besides fighting fires, and regardless of size of department there must be some assignment of functions to see that someone is responsible for getting things done.

Confusion would certainly result, for example, if today you were in charge of one thing and tomorrow some entirely new job was thrust upon you for which you had no opportunity to prepare yourself. With such hit-or-miss management, important matters would be overlooked or slighted. So we try in fire department administration to assign the persons who can best do the job.

Now, some authorities contend that rank is not a major consideration in setting up a staff because all persons with staff responsibilities exercise the authority of their chief, just as a chief's aide may assign companies at a fire because he represents the Chief's authority and responsibility.

However, in the fire service, rank is important for several reasons. It carries the authority to give orders and it commands certain respect because it is evidence of meeting certain qualifications and experience. We know, for example, that in years gone by, a lieutenant assigned as drillmaster was handicapped in dealing with a company commanded by a captain who had certain contrary ideas as to drills and training. Thus, although the lieutenant drillmaster had the backing of his chief, he did not carry sufficient rank in many cases. On the other hand, in a small department not having a captain for every station, the position of lieutenant may be a relatively high rank in the department and carry sufficient authority.

In setting up our staff, we must consider the jobs to be done, how jobs can be grouped efficiently, and who is available to do them.

We are all aware of the importance of the fire fighting division. This division provides our greatest reservoir of manpower and officers (or management personnel).

The units designated to do certain jobs can be grouped for management purposes. In a large department, these groupings may be termed "divisions" or "bureaus." We have already mentioned the fire fighting division. Another important unit is the fire prevention division. Generally grouped under this comes the public relations program, inspections, enforcement of fire laws, fire records, arson detection, and other related activities. These may be handled by different officers and members reporting to the department's chief through the chief of the fire prevention division.

There are a lot of other functions of fire department administration and management. We have our alarm and communications service, our training staff, and certain research functions including pre-fire planning and civil defense fire planning. We have apparatus and fire hose procurement and maintenance. We have building maintenance, our uniforms and supplies.

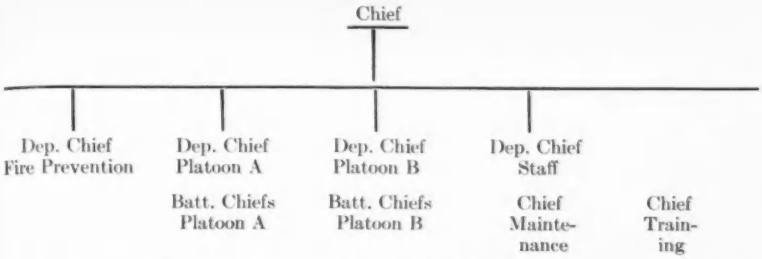
In Boston, Massachusetts, there is an assistant chief in charge of the staff functions. There is a district chief in charge of training, a chief in charge of the shop, and a chief in charge of the motor squad, but these activities are coordinated at management level by an assistant chief. This is important because training and maintenance are so closely related that no effective clear-cut line can be drawn between them.

There is equal need of coordination by management consisting of chief officers in the large departments and all officers in the smaller departments. This is best accomplished by: (1) assignment of staff responsibilities, and (2) regularly scheduled staff meetings in which each officer is called upon to report on his assigned tasks as well as make a general report "for the good of the order."

In Boston the assistant chiefs meet weekly to deal as a board with administrative problems that affect their several divisions. Their recommendations go up to the chief and fire commissioner where final responsibility for decision at departmental level must be reached. These chiefs also are assigned to respond to various multiple alarm fires to assist in the command functions at large fires where numerous companies are involved.

In a smaller department the same jobs must be done: fire fighting, fire prevention, training, communications, maintenance and supplies. The chief can try to handle everything himself at the management level, but generally better teamwork will be developed by assigning each of these functions to an appropriate officer and in a very small department, in some cases, to a fire fighter having the required qualifications. The chief holds these men responsible for the assigned function. He has time for management, planning, and problems that he must handle personally such as relationships with other department heads, the mayor or manager. Meanwhile, the subordinates are learning management and responsibility.

I always liked the idea followed in a number of departments such as Salt Lake City where every member of the department is first of all a qualified fire fighter. The chief assigns the man to the jobs where he will be most valuable. After probationary experience, the man may go to the shop for a period to become thoroughly familiar with apparatus. He may go to a company as an apparatus operator. He makes lieutenant and after a time may go to the training division as an instructor in use and maintenance of apparatus. Or a man may be assigned for a period into the fire prevention division so that when he becomes an officer he will be familiar with the department's inspection and prevention program. The idea of all members being fire fighters is carried out in practice as far as possible. For example, a shop truck is "on the air" and an alarm comes in nearby. The shop truck responds and the men report to the officer in charge and go to work as needed. There is a reason for this. Each man remembers that: "I am a fire fighter. No matter what I am doing for the department whether prevention or training or maintenance, I am first of all a fire fighter."



The organizational set-up in Salt Lake City looks like the chart above. Four deputy chiefs are the management board. The chief refers all administrative problems to their weekly meetings. He seldoms sits in on their deliberations, but closely follows their recommendations as they are the men who must make the department tick. As a result, a great spirit of teamwork has developed.

Fire Records

In years past much emphasis has been placed on use of fire loss information as an indication of fire department efficiency. The picture has changed today for a great many reasons, but numbers of fires and alarms are of great importance to the fire department administrator. Fire experience records will show trends of fires in different classes of business or industry. They will show seasonal trends that can be stressed in the fire prevention program. Good fire records will also show the relative amount of work being done by various fire companies, perhaps indicating need for additional companies in certain areas, or indicating that changes in assignments would make better use of some of the existing units. The number of working fires is important to know. If the number of working fires in a certain area is high, relatively greater first alarm response may be in order. If there is a high percentage of false alarms this is of concern to the administrator.

In fire prevention the number of inspections made by fire companies, by the fire prevention division, and the number of violations found and corrections made is important.

"The Visiting Fireman"

JOSEPH L. HALLET, Norwell, Massachusetts, has published the 1956 edition of "The Visiting Fireman." This is a pocket-size, illustrated book which has been popular with fire fighters, "box clubs", "buffs" and hobbyists. This year's edition includes a listing of parade, exhibition and contest dates, a story from Los Angeles County, California, plus other articles and news items. Copies may be obtained for $1.00 each by writing to the above address.

Pamphlet on Shock

PUBLIC Health Service of the Federal Security Agency has published an interesting folder on treatment for shock. Titled "Salt and Soda for Shock in Burns," it describes how this solution may be given to burned persons to lessen the effects of shock. A level teaspoon of salt and ½ teaspoon of bicarbonate of soda, mixed with a quart of water gives the proper solution. It must, however, be administered cautiously. The pamphlet may be obtained from the U.S. Government Printing Office, Washington 25, D. C., at $2.00 per hundred copies.

Syracuse Bank Fire

Good and quick ladder work was a "must" for the Syracuse, New York, Fire Department on April 25. While repairs were being made to a 4-story concrete on steel bank building, sparks from a welder's torch ignited tar paper and other combustibles on the first floor. A smoky fire spread through the first and second floors. More than 50 of the 400 occupants, many trapped in the upper floors, were rescued by fire department ladders. Fire damage was estimated to be in the vicinity of $175,000. *(United Press photo at left; photo above by Frank Morrell.)*

What to Do about *RADIOACTIVE MATERIALS*

Ontario's Fire Marshal W. J. Scott has distributed an informative bulletin on radioactive materials for fire fighters in that Province. Reprinted below, it has a number of helpful suggestions for fire departments who are concerned about the increasing use of such materials in industry.

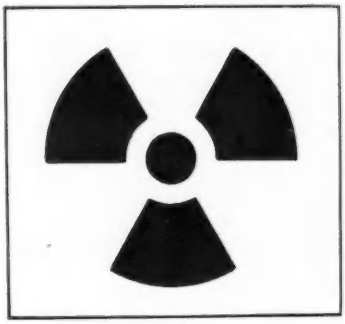
NUMEROUS shipments of radioisotopes are now being received in Ontario cities and towns, from the Atomic Energy of Canada Limited and other agencies which handle radioactive materials. The extent of these shipments can be judged from the fact that the federal authorities, who control shipments and storages of radioactive materials in Canada, notified the Fire Marshal's Office during the month of February, 1956, of a total of 47 shipments to 21 different destinations in Ontario of potentially-dangerous quantities of radioisotopes, under the established procedure in which the federal health authorities notify the Fire Marshal's Office of each such shipment to this Province.

These ordinary shipments of radioisotopes for medical, laboratory and industrial use, are of no particular hazard to fire fighters as long as the materials are in their safety containers. While the radioisotopes are in these safety containers, fire fighters can work quite safely for some time in the same room and quite close to where these containers are stored.

It is only when fire or physical accident has ruptured the safety container, that there is a potential hazard. Rarely is the hazard very great, as far as external radiation is concerned, unless the capsule containing the radioisotope is actually held in the hands, or carried about on the person. Many types of radioisotopes would be very damaging if the radioactive material in some manner got inside the body of the fire fighter.

Almost the only exceptions to the rule that "the radioisotopes are in minute quantities," are the Cobalt-60 beam therapy units, now in use in various Ontario hospitals and institutions, principally in connection with cancer treatments. These beam therapy units have radioactive materials in quantities up to 2,000 curies, and are all inside massive safety shielding, which in turn is installed in heavy concrete chambers. Together, the shielding and chambers provide almost complete protection against any danger from fire. In the very unlikely chance that a major fire would destroy both the concrete vault and the lead and steel containers, the uncontrolled radioactivity from a Cobalt-60 beam therapy unit would be very dangerous for external exposures several hundred feet away, even for short intervals.

None of these radioactive materials, shipped within Ontario, can in themselves start a fire, or contribute to the intensity or spread of any fire in the vicinity. They become a hazard only if the safety container, usually of aluminum for the small case holding the radioisotope, and of lead (or lead and steel) for the protective container, may be damaged by the fire or by fire-caused mechanical means, such as falling beams.



Standard symbol for designating any radiation hazard is this purple (magenta) figure on a yellow background.

Full particulars of the kinds of radiation hazards that might exist have been dealt with at various schools conducted by the Ontario Fire Marshal's Office and in publications of the International Association of Fire Chiefs and the National Fire Protection Association, as well as in circulars from this Fire Marshal's Office. Attention has also been given to the standard methods of decontamination, particularly through washings with soap, or detergents and water.

The following are safety rules to assure safety against radiation hazards, on behalf of the members of the fire departments called to fight fires in these premises:

(1) On receipt of notification from the federal authorities, the Ontario Fire Marshal's Office immediately notifies each fire chief of any shipment to his community of radioactive material considered to be a potentially-dangerous quantity.

(2) On receipt of this notification, the municipal fire chief should at once contact the laboratory or firm receiving this shipment, to ascertain the exact location where the radioisotopes will be stored and used, to arrange for the placarding of the immediate storage area with the radiation warning signs which will be furnished free of charge by the Fire Marshal's Office, and to learn with whom the fire department should deal concerning any possible radiation hazard in the event of any fire in these premises.

(3) Fire fighters answering calls to premises where radioisotopes are stored or used, should be equipped with and use self-contained breathing apparatus, or a tight-fitting filter-type mask, and wear the usual fire department protective clothing, boots and also gloves.

(4) Unless assured and accompanied by a technically-competent member of the management staff, who will personally conduct them into the immediate area, fire fighters should not, under any circumstances, enter a radioactivity-placarded room for fire fighting or rescue purposes, until it is established that

the safety container or containers for the radioisotopes is undamaged. Until such time, the fire should be fought with fog nozzles or fog applicators from the doorway or windows of this storage room. Outside this particular storage room, the fire can be fought in the ordinary manner.

(5) In the event that rescue operations make entry urgent without the assurances in paragraph (4), radiation hazards must be minimized by restricting the time in storage room as much as possible — not more than 4 or 5 minutes at the most — by wearing breathing apparatus, by not handling objects in the room, and by washing down immediately on leaving the room.

(6) In any salvage operations, the fire fighters should be monitored by a trained technician with proper radiac instruments until it is ascertained that the radioisotope safety container is undamaged.

(7) Tightly fitting masks should be worn at all times where there is danger of radiological contamination in the air. Any firefighter receiving any cuts or bruises, which break the skin, should be at once relieved of duty and receive medical examination. There should be no smoking, eating or drinking in the contaminated area, or later outside the area, by any individual who had been exposed, until it is certain his hands and body are free from contamination.

(8) Any instance of possible exposure to radiation should be reported at once by telegram to the Health Radiation Section, Occupational Health Division, Department of National Health and Welfare, Ottawa, and to the Fire Marshal's Office. It should also be entered in the individual fire fighter's medical record.

It is important that all fire departments establish proper procedures in dealing with radiological hazards. These same procedures will hold good when atomic power stations become prevalent in this Province.

SOME idea of the prevalence of shipments of radioactive materials in Ontario at the present time can be seen from the following list of shipments in the month of February, 1956, from two private concerns selling radioactive materials. In all cases these shipments were of a size which is considered to be a possible health hazard in the event of fire on the premises:

Toronto — 13 shipments to 5 different consignees
Hamilton — 9 shipments to 2 different consignees
Kingston — 6 shipments to 3 different consignees
London — 4 shipments to 1 consignee
Welland — 1 shipment

And shipments in February, in the same "possibly dangerous" classification, from the Commercial Products Division of the Atomic Energy Commission of Canada, Chalk River, Ontario, were as follows:

Ottawa — 4 shipments to 3 different consignees
Toronto — 2 shipments to 1 consignee
London — 2 shipments to 1 consignee
Oakville — 2 shipments to 1 consignee
Hamilton — 1 shipment
Kingston — 1 shipment
Belleville — 1 shipment
Shirley Bay — 1 shipment

This makes an overall total of 47 shipments to 21 different consignees. This is a substantial number of additions to current storages of radioactive materials in this Province. And February is not an unusual month. Some of the shipments to Ontario points are quite substantial in their radioactivity, *e.g.*, the most recent industrial radioisotope storage on which the Fire Marshal's office has been consulted is for 5 curies of Cobalt-60. Quite a few shipments are in the curie range and some shipments to hospitals are in the megacurie range.

Handbook for Teaching Radiation Safety

IN THE May issue of FIREMEN, attention was called to a pamphlet containing an elementary discussion of radiation safety. It has been used by the United States Atomic Energy Commission for education of employees in its own plants and those of its contractors. The pamphlet is a Radiation Safety Primer, 5¼ by 8 inches in size, with 64 pages.

An Instructor's Handbook for the use of this primer, prepared by F. L. Brannigan of the Safety and Fire Protection Branch, U. S. AEC, has been issued for the guidance of individuals assigned to give this instruction. This handbook measures 8 by 10 inches and has 28 pages.

Single copies of the Instructor's Handbook and the Radiation Safety Primer are available from the Safety and Fire Protection Branch U. S. Atomic Energy Commission, Washington 25, D. C. Copies of the Radiation Safety Primer in quantity should be ordered from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. at the price of 25 cents each. There is a 25 percent discount for orders of 100 or more.

The purpose of these publications is to present to employees concerned with the nuclear radiation hazard, a brief description of what it is, what is done to protect him in the way of procedures and protective equipment, and what he must do to protect himself. Illustrations in the Radiation Safety Primer may be presented in slides. Arrangements have been made for sets of 35 millimeters (2 by 2 inches) slides in full airbrush color to be made through commercial photographic channels.

Inquiries about the slides should be addressed to the Safety and Fire Protection Branch, U. S. Atomic Energy Commission, Washington 25, D. C.

SALE OF PETROLEUM LIQUIDS IN GLASS CONTAINERS PROHIBITED

Rule 403.9—Regulations of the Ohio State Fire Marshal for Petroleum Liquids. "No Sale or Purchase of any "Petroleum Liquid" shall be made in glass containers, except in original sealed containers of not more than 1 quart capacity!"

PENALTY — $10 TO $50 FINE.

Forceful Warning Sticker

Ohio State Fire Marshal Charles R. Scott is distributing this colorful label from his office in Columbus. Featuring bright red letters on a yellow background, the 4- by 6-inch sticker was designed by a subcommittee of the Ohio Rural Safety Committee, to restrict the practice of filling unapproved glass containers with flammable liquids. They are distributed to gasoline filling stations so that attendants can point out the legal restrictions if customers request such service.

Fire Problems Occasioned by Aircraft

by Warren Y. Kimball

Part II

WE HAVE previously discussed the importance of general familiarity with aircraft that might be the cause of fire problems in an area served by your own local fire department. Now let us consider the problem of response to alarms. First, the response should be adequate for the situation. As usual, the fire department will act on the information at hand. Where the department is located near an airport, toward which it has some responsibility for protection, it may be alerted when an aircraft is in trouble in the vicinity, so that adequate equipment may respond as soon as the location of the accident is reasonably pinpointed. In most instances, however, first notification will be from the public.

Frequently, the severity of the incident may be gauged by the number of calls received but this is not always true, especially in more isolated areas. Also, there may be difficulty due to conflicting reports as to the magnitude of the disaster or accident, and its specific location. These things are sometimes true of building fires also, but buildings have a habit of staying put better than aircraft. Confusion is likely with aircraft crash fires because of the volume of smoke and fire normally attending such accidents, and the "swath" cut by the aircraft coming to rest. Thus the department will need to be as certain as possible of the location of the emergency. The chief may have to direct response to more than one point.* The initially arriving units should direct the other units by radio and summon such additional help as may be needed, as soon as there has been opportunity to secure information upon which to take action. This does not necessarily mean waiting until size-up has been completed upon arrival. If a major fire or other emergency is evident, help may be summoned even while the initial response is en route. There is never valid excuse for a "too little and too late" policy in the fire service, once the nature and location of the emergency has been established.

Dow Air Force Base, Maine. This KC-97 "Flying Tanker" crashed short of the runway, but all 12 men aboard escaped, 3 receiving only minor burns. Fire fighters responded immediately from their crash station one mile away. Three O-11A crash trucks, 2 fire department pick-up units, a 1,000-gallon tanker, a foam powder trailer and 2 pumpers came in on first alarm. A rescue team went into the heavily involved plane to assure that all personnel had escaped. Fire control was established in 30 minutes. Flames were subdued only after a foam generator was incorporated in a 1,500-ft. relay. Eight hundred gallons of liquid foam and 2,000 pounds of foam powder were applied, together with 120 gallons of chlorobromomethane. Magnesium continued to burn despite a heavy foam blanket.

On approach and arrival of the first officer, or first apparatus, the size-up begins. He will, of course, note the volume of flame and smoke as an indication of the magnitude of the fire but this may not be the only criteria as to the fire and life hazard. There may be a number of persons aboard and ignition of fuel and flammable liquids may not yet have occurred.

One of the first things the officer will do is verify the exact location and nature of the accident and give radio directions to assure proper disposition of the responding units, in order to cover the involved area from all accessible points. This is good procedure in normal fire fighting but is more important in accidents resulting from falling aircraft.

Quite frequently several buildings are struck before the disabled aircraft comes to rest and over a considerable area persons may be in need of immediate assistance. There is also the likelihood of multiple fires. Now in our size-up we cannot expect always to determine instantly the exact type of plane involved but we will note the following:

(a) *Type of Aircraft.* Is it a large aircraft such as a commercial airliner, transport plane or bomber, or a small fighter, or private aircraft?

(b) *Extent of Fire.* Has fire already occurred? Is it a major fire involving severe ground spill of fuel or a small fire around engines or other part of the aircraft? To what extent has fire extended to or threatened adjacent property?

(c) *Life Hazard.* The extent and nature of the fire problem will greatly influence our action to save lives. We are interested in the number of people trapped in the aircraft. We must assume that they are injured and need to be released and removed. We must not overlook persons who may have been thrown clear by the final impact, or who may be in a part of the craft broken

*See recommendations for grid or azimuth maps to spot aircraft accidents in Paragraph 403 of NFPA Standard No. 402.

off in the crash landing. These persons will need immediate first aid and protection from fire.

Included in the fire safety problem are persons in buildings struck and fired by the crash. The probabilities of loss of life in exposed buildings are very serious. The likelihood of a major fire is extremely great. Pedestrians, motorists in the vicinity and children at play add to the life hazard potential.

(d) *Exposure Problem.* This is closely related to the life problem in our size-up but we may have large combustible properties immediately exposed to our crash fire such as large industries, lumber and oil storage and other combustibles.

What fire department response do we need to cope with the maximum potential fire and life hazard resulting from this crash? The answer to this question will result in twofold action. *First.* What multiple alarms and extra equipment must be called? *Second.* What immediate disposition must be made of available first alarm response? Let's always remember that fundamental precept of good fire ground management — Get enough help on the way and as soon as possible give radio instructions describing their assignment on arrival. In crash fire fighting a lot of special equipment will be needed. Adequate foam equipment must be dispatched. Rescue units and ambulances not assigned to general fire response must be called immediately. The police problem will also be severe and our preplanning for crash fire operations should take into account the need for establishing road blocks and traffic control as well as handling panic-stricken persons.

Where there is a regularly organized aircraft crash unit available from a nearby airfield, whether military or civilian, arrangements should have been made in advance to notify the crash crew of the exact location of the accident and to assure their response. At fires under the jurisdiction of municipal fire department the operation of the crash crews must be coordinated under the direction of the local fire department officer in command. There have been incidents where crash crews operating independently at off-field crashes have seriously interfered with the work of the municipal fire department, obstructing the movement and blocking access of municipal apparatus. It must not be forgotten that the local fire authority is responsible for the protection of all the public, not just personnel riding in aircraft.

Long Beach, California. This PBY5A crashed and burned after take-off from Long Beach municipal airport. Fire fighters from Douglas Aircraft, U. S. Army, and Long Beach Fire Department responded to alarm. Engine No. 14 of Long Beach radioed for assistance when the plane crashed only 1,000 feet away. Intense fire developed in the 1,700 gallons of fuel when the tanks were severed on impact. Two U.S.A.F. Type O-11 crash trucks and 4 engine companies of the city's fire department extinguished the flames with foam, dry chemical and water fog. *(Associated Press Wirephoto.)*

Whether a local fire company or an airport crash crew is first to reach an off-airport crash fire, immediate attempts at rescue and fire control are demanded. If the airport crash crew arrives subsequent to the fire department and further rescue operations are needed, it is normally advisable to utilize the experience and equipment of the crash crew in this specialized work. If the crash is in an area under the jurisdiction of the airport fire chief, the municipal companies will render assistance as required under normal fire department mutual aid operations outside of local jurisdiction.

Plans should be made in advance for utilization of available crash equipment and the officer in charge of the crash crew should report to the chief or other local officer in command on the scene. Best coordination may be expected where the crash crew is operated as a municipal fire company directly subject to the discipline and orders of the local fire chief who is legally responsible for the protection of the community. Of course, utmost cooperation is needed where numerous agencies have an interest in the fire problem but the local fire officer must not relinquish his command responsibility over the fire fighting and rescue operation, even though he will need the cooperation, advice, and assistance of other agencies. It is to be expected that airport fire crews will be better informed on forcible entry into aircraft and will have special equipment not ordinarily available to regular fire companies. One common difficulty may be that ill-advised military officers may attempt to "push around" the local fire officer in command, under the guise of security. In such cases, where the crash is clearly in the municipal territory, the fire chief may be forced to state: "I am legally the commander in this governmental jurisdiction charged with the protection of life and property. Do you want me to withdraw my forces and let this plane burn? Do you accept the full responsibility for any damage that may result?" Joint U. S. Army-Navy-Air Force regulations have been issued covering coordination and security considerations and an extract of these regulations is published in Appendix B of NFPA No. 402.

If the local police are present, they are instructed to maintain the authority of the fire chief and to remove from the fire ground anyone who attempts to interfere with that authority. However, if the incident is at a location remote from exposures, and involves only military personnel, it would be wise to "offer" to withdraw and let the craft burn,

if the fire department's operations are interfered with. Of course, the smart fire chief will have worked out in advance proper liaison with the military agencies operating aircraft near his jurisdiction. This is necessary to protect his own men against the hazards of fighting fires in armed aircraft.

(e) *Where No Fire Has Occurred.* Steps must be taken to prevent ignition that may present a major fire and life problem. All necessary hose lines should be placed in readiness for immediate use if needed.

IN MANY areas military air bases have training areas set aside. Numerous U.S. Air Force and Naval commands have already conducted crash fire fighting training for fire departments in their area.* Many airport fire departments also have in operation elaborate mutual aid plans with local municipal fire departments. Such programs should be expanded, but municipal fire departments should accept their own responsibility for preparation and training in the handling of aircraft fires in their municipality. Now, there are many sizes, types and shapes of planes serving a great variety of purposes, and new designs are coming out from time to time making necessary frequent re-evaluation of the fire problem. There are passenger planes, varying from small private planes to large overseas aircraft. There are cargo planes. There are innumerable military planes, ranging from the large strategic bombers to smaller trainers. As mentioned in the May FIREMEN, familiarity with aircraft types is important to the fire fighter, and he should exploit every opportunity to know about aircraft, (at least those types that use nearby airports and commonly fly above his community). The NFPA has prepared two general charts (NFPA No. 403-1A and 1B) showing entry methods for rescue and the principal fire hazard zones of civil aircraft. (*See pages 30 and 31 of this issue — Ed.*) Individual airlines and military authorities also have instructional charts showing the construction and arrangement of their own aircraft.

It should be emphasized that after an accident occurs the exact type of aircraft involved by fire might not be immediately established by responding fire fighters. A general knowledge of construction is therefore the first essential. The record of airplane crash fires is replete with incidents where accidents followed attempts to make unscheduled emergency landings, or where planes crashed in flames remote from an airport. By studying the NFPA's Aviation Bulletins, fire fighters can be well-prepared to combat such fires.

*See Appendix B, NFPA No. 402.

Richmond, Virginia. Typical of the problems which can occur suddenly for any fire department is this incident. Two Navy jet planes brushed together above Richmond. One managed to return safely to a nearby airport. The other crashed out of control in a residential district, after the pilot parachuted to safety. All six occupants escaped from the house and a small child on the second floor was rescued. Responding fire fighters used hose streams to extinguish the severe dwelling fire and the fuel spill. (*United Press Photo.*)

"Sparky" in Anchorage, Alaska

THE Anchorage, Alaska, Fire Department, headed by Chief George Burns, has made good application of "Sparky" in teaching fire safety to children. In addition to using the special posters and books prepared by NFPA and The Advertising Council, members of the Department have made a portable display booth to show puppet action of Sparky's Fire Department. In addition, Chief Burns sends the picture at left and the following letter to every child in the community who has joined Sparky's Fire Department, Boston 1, Massachusetts.

Sparky's Fire Department
Anchorage, Alaska

Dear Inspector:

Thank you very much for sending me a letter. I like to hear from my inspectors because they are my friends and they are very careful about fires.

I am sending you a picture of myself as I promised I would and I sure hope you like it.

When you say your prayers at night, please ask God to help people to be careful not to start any fires that will burn their houses down, and ask Him to watch over all my inspectors so they won't get hurt.

All my love,
Sparky

What is your fire department doing in this respect?

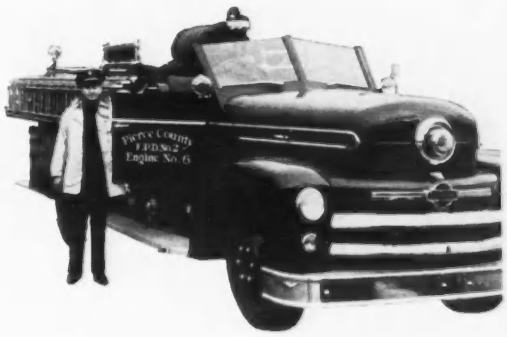
Expansion Program for Volunteers

DURING the past few years there has been a growing trend of reorganization and expansion programs for fire departments. The latest to be reported to FIREMEN magazine concerns Chief Bruce White's Lakewood Volunteer Fire Department which protects the Lakes District, near Tacoma, Washington.

This 28-member volunteer fire department was organized in 1940. Chief White has been a member of the Department for 14 years and has served as Chief for the past 12 years. The Department is responsible for protecting all portions of Pierce County Fire Protection District No. 2 which includes some 7,000 dwellings, 90 business buildings, and two hospitals.

Financial revenue for the Department comes from a 4-mill tax levy on property valuation in the District. In 1942 this levy brought in only $3,274 on valuations of $1,900,000. In 1955 it brought in $57,000 on a valuation of $15,700,000.

Last year a $200,000 bond issue was voted to bring the fire department a new headquarters station and three outlying stations. Included in the funds were provisions for $5,000 worth of new furnishings, $7,000 worth of hose, and three new pumpers costing approximately $19,000 each. Provision was also made for purchasing a Gamewell fire alarm system including 40 alarm boxes, some 168,000 feet of wire, control cabinets, and air actuated horn signals for each of the four stations.



Chief White shown with one of the new 750 gpm pumpers purchased by the Department.

All of the new stations are one-story concrete block structures of modernistic design. The new headquarters features large windows on the walls and apparatus room doors, together with asphalt tile and quarry tile floors. There is a large meeting and recreation room which includes a modern fireplace, a kitchen and dining alcove, shower facilities, and a dormitory for seven men. The building is 72 feet deep by 92 feet long and is located on a triangular lot measuring 196 by 131 by 160 feet.

The other new fire stations measure 40 feet deep by 53 feet long and in addition to apparatus rooms and kitchen facilities, they feature sleeping quarters for four men.

(We'd like to hear from other fire departments, paid or volunteer, who are undergoing expansion programs similar to that of the Lakewood Fire Department. Pictures and description of new apparatus and quarters will be appreciated — Ed.)

Apparatus of the Lakewood Fire Department shown before one of the new fire stations. Left to right: Three new 750 gpm Seagrave pumpers; one 500 gpm pumper on a Ford chassis; one 500 gpm pumper on a Diamond T chassis; one 750 gpm pumper on a GMC chassis; and Chief White's (in white turnout coat) sedan.

Electrical Inspection Schools

SINCE the latter part of May, the office of W. J. Scott, Fire Marshal of Ontario, Canada, has been conducting a series of two-day courses in electrical inspections for fire department personnel. These are scheduled to be held in many major municipalities of Ontario during June and July.

Instruction on the first day includes explanation of the basic laws of electricity, classification and description of various wiring circuits, and a discussion of electrical hazards encountered by inspectors.

The second day of the course features a description of the functions of the Canadian Standards Association, a study of electrical hazards by occupancy and location, description of regulations made by the Hydroelectric Power Commission of Ontario, and practical application of inspection procedures. In addition, there are individual guest speakers and panel discussions.

The following classes are scheduled to be held in the Province of Ontario during the next two months:

June 5, 6, 7 and 8 Toronto; June 12–13 Hamilton; June 14–15 London; June 20–21 Windsor; June 26–27 Sarnia; June 28–29 Kitchener.

July 5–6 Fort William; July 9–10 Timmins; July 12–13 Sudbury; July 16–17 St. Catharines; July 19–20 Owen Sound; July 23–24 Peterborough; July 26–27 Cornwall.

For further information, write to Mr. D. E. Barrett, Director, Ontario Fire College, Office of the Fire Marshal, 210 Huron Street, Toronto 5, Ontario, Canada.

Fire fighting is an art!

An art is the perfection of knowledge and skill. A profession is the practice of an art.

The professional Fire Fighter is one who combines knowledge, experience and clear thinking with the skillful use of the tools of his trade. To bring these to a successful culmination he and his equipment must be transported to the scene quickly, safely and efficiently.

GET HIM THERE with a FEDERAL COASTER SIREN and a FEDERAL BEACON RAY light — signals made *by* professionals, *for* professionals, to do a professional job!

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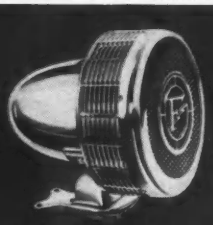

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YOUR FIRE SCHOOL CALENDAR

Arizona: The State Fire Training School will be held in Phoenix, October 24–26. For further information write to Batt. Chief Jake Siken, 49 South 1st St., Phoenix, Arizona.

Colorado: The Colorado State Firemen's Convention & Fire School will be held in Durango, June 20–23. Write to Lou Gibbs, 1331 Garfield Ave., Loveland, Colorado.

Georgia: The Georgia State Fire College will be held in Atlanta at No. 7 Fire Station. Arson Investigators Course, July 9–10, Inspectors Course, September 3–4, and Fire Engineers Course October 8–9. For further information write to Harry Phillips, 46 Courtland Street, S.E., Atlanta 3, Georgia.

Illinois: The Southern Wisconsin and Northern Illinois Firemen's Association will conduct their Twentieth Annual Fall School on September 9 at the Savannah Ordinance Depot, Savannah, Illinois. For further information write to the Program Secretary, Kenneth Holt, Cassville, Wisconsin.

Indiana: The Fifteenth Annual Fire Department Instructors' Conference will be held at the Indianapolis Fire Department Drill School June 13–14. The Twenty-third Annual Indiana State Fire School is scheduled to be held at Purdue University September 11–14. For further information write to Norbert Lehman, Fire Instructor, Purdue University Division of Adult Education, Lafayette, Indiana.

Kansas: The 27th Annual Kansas Fire School will be held in University of Kansas, Lawrence, October 15–18. Write to Clyde A. Babb, 111 Fraser Hall, Lawrence.

Maryland: The 23rd Annual Short Course for Firemen will be held in University of Maryland, September 4–7. For further information write to Robert C. Byrus, Box 85, University of Maryland, College Park.

Michigan: The 28th Annual Michigan Fire College will be held in University of Michigan, Ann Arbor, June 19–22. Write to Francis Hartman, 4524 Administration Bldg., University of Michigan, Ann Arbor.

Mississippi: The Mississippi State Fire School will be held in Mississippi State College, Starkville, June 18–22. Write to Joseph I. Fetters, University of Missouri, Room 101, Bldg. T-11, Columbia.

Missouri: The 20th Annual Central Missouri Fire Conference will be held in University of Missouri, Columbia, July 24–26. Write to Joseph I. Fetters, Room 101, Bldg. T-11, Columbia.

Nevada: Training sessions by itinerant instructors are held for the fire departments of this State. Write to F. I. Wallace, State Supervisor, Trade & Industrial Education, Carson City.

New Hampshire: The New Hampshire State Fire School, probably at Grenier Field in late September. For further information write to H. Swain, Dir. Trade & Industrial Div., Department of Education, State House, Concord.

New Mexico: The State Firemen's Association Convention and Fire School will be held in Las Vegas, June 11–13. Fire Marshals' School in early August. Write to John B. Woodall, State Department of Insurance, Santa Fe.

South Dakota: The South Dakota Firemen's Association and Fire School will be held in Brookings, June 18–22. For further information write to Joseph I. Fetters, Room 101, Bldg T-11, Columbia, Missouri.

Tennessee: The Tennessee State Fire Service School will be held in Mid-Tenn. State College, Murfreesboro, August 20–24. For further information write to Homer S. Elkins, 215 Chestnut Street, Chattanooga, Tennessee.

Texas: The Texas Firemen's Training School will be held at Texas A & M College, College Station, July 8–13. For further information write to Henry D. Smith, Firemen's Training School, A&M College, College Station.

Utah: The Twelfth Annual Firemen's Training School will be held in Salt Lake City, June 21–23. For further information write to D. E. White, Asst. Chief, 140 E. First Street, South, Salt Lake City.

Virginia: The Virginia State Fire School will be held in Norfolk, Sept. 10–14. For further information write to Clay A. Easterly, P.O. Box 1112, Martinsville.

Washington: The Annual Fire Training Conference will be held in Everett, July 18–21. For further information write to Capt. J. R. Cook, Washington State Firemen's Assn., N223, 1712 Harvard Ave., Seattle, Washington.

West Virginia: The West Virginia State Fire School will be held in Morgantown, July 23–27. Write to R. E. Hanna, Jr., Fire Service Extension Schools, West Virginia University, Morgantown.

Wisconsin: The University of Wisconsin Fire School will be held in University of Wisconsin, Madison, August 13–15. Write to James J. Lichty, Supervisor, P.O. Box 2098, Madison 5, Wisconsin.

Ladder Pipes on Cranes

The large steel plant of the Inland Steel Company at Indiana Harbor, Indiana, has a well-trained industrial fire brigade, headed by Chief George Wills. To supplement existing fire protection equipment, Chief Wills has arranged for adjustable steel castings to be installed near the tips of all yard cranes. If fire occurs, hose lines and nozzles can be attached quickly to the cranes and streams can be brought promptly into effective position. The evolution is reported to be particularly suitable for flammable liquid tank installations.

Benefit Law for Volunteers

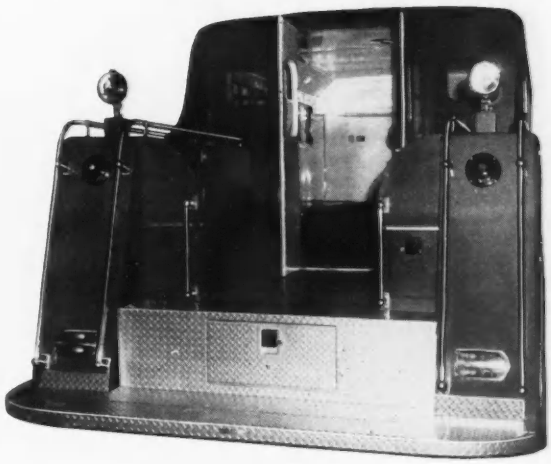
GOVERNOR Averill Harriman of New York State has signed the new Volunteer Firemen's Benefit Law which applies to all volunteers in that state. The new law provides simplified benefit payment procedures for volunteer firemen injured in the line of duty and for their families if the firemen die as a result of fire fighting.

The new system will be administered solely by the Workmen's Compensation Board. The bill sets forth in detail the duties of volunteer firemen, activities and travel for which they will be covered and broadens the definition of the word "injury." It provides for benefits which approximate the maximum amounts payable under the Workmen's Compensation Law rather than relating benefits to personal wages and earnings in a volunteer firemen's regular vocation (applied under the old law).

The surviving spouse of either sex of a volunteer fire fighter killed in line of duty is entitled to a lump sum death payment of $1,000 in addition to weekly benefits. Such payments are to commence immediately after official notification of the fireman's death. The new bill had been urged by the Association of Fire Districts of the State of New York, the Firemen's Association of the State, and other volunteer firemen's groups.

Have you suggested NFPA membership to a fire chief lately?

YOUR EMERGENCY will be easier to care for



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NATIONAL FIRE PROTECTION ASSOCIATION
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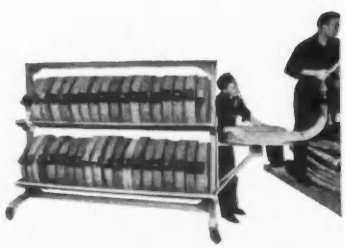

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Fire Department Vacations

THE Boston, Massachusetts Fire Department has adopted a new system of assigning vacations for its paid fire fighters. The system is based on a nine year cycle of rotating vacation periods. Every member of the department below the rank of Deputy Chief is assigned a vacation group number with the numbers running from 1 to 9. This is a permanent number assignment as long as the man is a member of the company to which he is assigned at present. If he transfers to another fire company, he assumes the vacation group number of the man whom he replaces.

The system is arranged so that every member will have a different vacation period each year. Every man will have a "good" vacation period about every third year. This eliminates the chance of men getting poor vacation periods continually if the vacation program is drawn up haphazardly, or "out of a hat."

Fireboat Patrol for Piers

AS PART of the intensive fire prevention activities now being conducted by the New York City Fire Department, the municipal fleet of eight fireboats began in April a continuing inspection of the city's 500 piers and commercial wharves. Fireboat crews have been ordered to search especially for poor waterfront "housekeeping" conditions, improper maintenance of fire fighting devices, improper storage of stock, inadequate fire walls beneath piers, and damaged or deteriorated standpipe hose. Company officers in charge of the inspecting crews are required to make daily reports of inspections.

Fireboat personnel will inspect piers and commercial wharves daily from 9:30 a.m. to 12:30 p.m. and from 1:30 p.m. to 4:30 p.m. They remain "on the air" with radio communication to respond promptly to fire alarms. Deputy Chief George W. Carlen, who is in charge of the Department's Marine Division, has been authorized to suspend waterfront inspections during foggy weather, hurricanes, abnormally high tides, snowstorms and on holidays.

If you are going to change address, please be sure to notify the NFPA Executive Office.

For Forest and Brush Fires

SOME useful tips are listed below for fire departments who will be fighting extensive forest and brush fires this summer. They were extracted from an interesting report titled "The Haines Canyon Fire," in the April, 1956, issue of the *Fireman's Grapevine*. Robert Dove of the Los Angeles County Mountain Patrol authored the article, which also described fire department operations in the Canyon when fire received the assistance of an 80-mph wind.

1. A good pair of dust goggles should prove "worth their weight in gold."
2. A rag around the neck, or a tight collar, will keep glowing embers on the outside of your turnout coat.
3. Be sure your helmet is strapped down snugly. With the wind at your back, a loose chin strap might lead to a dent in the bridge of your nose.
4. Be constantly alert to the danger of flying debris; give all of it a wide berth, or you stand a good chance of getting up off the ground wiser but sorer.
5. Don't work by yourself unless it is unavoidable.
6. Work from behind shelter whenever possible. A rig, a corner of a structure, a fold in the ground, or any substantial protection is better than nothing.

Company team-training paid off particularly well during this windstorm and fire emergency. However, it was demonstrated that company control and leadership was very difficult to maintain. During the height of the storm, the normal voice and visual method of control failed to get the leader's job done. It was necessary for the company leader to make a specific effort to insure that assignments and orders were understood. It was not necessary for the company members to perform operations by the numbers, still, a very carefully organized approach and execution was mandatory at all times.

The effect of the wind made even normal duties much more difficult to perform. The wind's effect on a 1½-in. fire stream can serve as an example for this point. With the wind estimated at 80 mph, and with good nozzle pressure, a stream directed into the wind would not consistently reach 15 feet. Even then the crew got most of the water blown back on them. When held at right angles to the wind, the stream lost its effectiveness past 20 to 25 feet. Streams directed "downwind" had a good controlling effect on burning brush and debris for more than 40 yards. Even at that, they lacked real "putting out" power because the streams were broken by the wind shortly after the water left the nozzle.

"We used this INDIAN FIRE PUMP for 31 Years and it's still in good condition"

Neil LeMay, Chief Forest Ranger, Wisconsin Conservation Dept., holds a **SMITH INDIAN FIRE PUMP** which they have had in service for 31 years. Chief Ranger LeMay states: "The **INDIAN PUMPS** are especially fitted to forest fire control work because after 31 years of service, a can is retired merely because of its inadequacy in size rather than inserviceability."

This important statement speaks volumes for the long life of **INDIAN FIRE PUMPS** and their sturdy construction.

INDIAN FIRE PUMPS are approved by UNDERWRITERS' LABORATORIES

Designed right and built right. **INDIAN FIRE PUMPS** last for years despite rough handling and continuous use. That is why they are **"choice for quality the world over."** Every part is constructed to give rugged wear. Available in either sliding pump type (*as illustrated*) or lever type pump and handle.

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THIS BADGE WILL MAKE YOU THINK TWICE BEFORE ORDERING ORDINARY GOLD BADGES
Why . . . Because this new HI-GLO Badge is different. It is made from an entirely new material—a rich looking golden metal that is solid gold color throughout. That's why you can polish a HI-GLO badge for a lifetime. Every HI-GLO badge will have deluxe enamel lettering and a ruby colored stone set in the eye of the eagle. (Stone optional at extra charge.) You can see, the new HI-GLO badges will be something special, a distinctive badge for those who want the very finest gold color badge.
Your Blackinton equipment supplier has samples of the new HI-GLO badge. Ask him for more information.
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V. H. BLACKINTON & CO., INC., ATTLEBORO FALLS, MASS.

What's Your Accident Potential?

CHIEF Glenn W. Smith's 1955 annual report of the Lubbock, Texas, Fire Department included an interesting table of firemen injured in the line of duty. We reproduce here the list of accidents, with the thought that it may assist other fire departments in studying their own accident potential. An important part of fire department training is the elimination of causes of accidents which result in the work of fire fighters, and a study of the accident record of other fire departments may contribute to this goal.

Stuck nail in foot	4
Strained backs	3
Burns from hot grease in skillet	1
Scalded by hot water on hands	1
Scalded by hot coffee pot on body	1
Slipped on recreation room floor	1
Sprained ankles	1
Slipped and fell and injured knee	1
Cuts on hands	1
Foot caught in rungs of aerial ladder	1
Jumped into window and bruised ribs	1
Splinter in fingers	1
Sliding down pole and bruised knee	1
Strained shoulder pulling hose line	1
Replacing ladder on truck cut gash on lip	1
Cleaning truck with solvent got solvent in ear	1
Struck by falling wall received gash over eye	1
Sprained ankle and ruptured blood vessel	1
Foreign objects in eyes	1
*Total	25
*Injuries treated by doctor	15

Connecticut Fire College

BECAUSE of a new highway construction program, the well-known fire school at New Haven, Connecticut, is no longer available for training. This year the 15th Annual Connecticut Fire College will be held at Trumbull Airport in Groton, June 11 to 16. Saturday, June 16, will feature the "Field Day" exercise which will include demonstrations of new equipment used against actual fires.

Fire department members in eastern states who wish to attend can get additional information by writing to Director R. W. Adams, Public Service Training, State Department of Education, Vocational Training Field Service, 490 Capitol Avenue, Hartford, Connecticut.

Useful Extinguisher Bracket

Inspector Dick Landis, Bureau of Fire Prevention, Yakima, Washington, forwarded these photos of a fire extinguisher bracket used in industrial plants in that city. The bracket is made from scrap plywood joined with screws at the edges and fitted with a metal bracket at the top which is bolted to the sides. The extinguisher holder is then bolted to either side of the plywood. The item has been found particularly useful in warehouses where the location of stored good presents a problem of placing extinguishers where they will be readily visible.

Tip for the Night Shift!

ACCORDING to Ripley's "Believe It or Not" a woman named Gesine Meyer, who lived in Grambke, Germany, (1860 to 1915) went to sleep in December, 1886. She then slept continuously for 17 years. Then in 1903 she was awakened by a fire alarm and for the rest of her life she slept only a normal 8 hours each night.

Georgia Presentation

During a recent visit to Atlanta, Georgia, NFPA General Manager Percy Bugbee (*right*) was sworn in as an Honorary Fire Marshal of that State by Safety Fire Commissioner Zack D. Cravey.

GET TO THEM IN A HURRY WITH . . .

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YOU deserve the BEST PROTECTION OBTAINABLE for your hazardous work of protecting life and property against fire. The Mackinaw Safety Coat with new yellow stripes is the answer! Highly visible stripes are rubberized as part of the material . . . not painted, glued or sewed on. There is no substitute for the superior quality, design, fabric texture and safety features you get by specifying MIDWESTERN!

QUALITY UNEXCELLED

For complete information on our full line of safety clothing for firemen, see your Midwestern dealer. A letter to the factory will also bring you literature and materials for your inspection.

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CD Principles Revealed by British History

CIVIL defense became an important part of the action of war in World War II, but the practices of civil defense may be expected to vary from war to war, depending on weapons and tactics. The unsatisfactory civil defense efforts in this country to date are explainable by the fact that neither military or civil authorities understand civil defense principles well enough to apply them to the new weapons and tactics. The British Government has done a useful service, therefore, by preparing a substantial account of the history, organization and practices of its World War II civil defense efforts. This history shows how the problem was approached, the fumbling, the errors, but also the principles of successful civil defense.

A book, "Civil Defense," by Terence H. O'Brien was issued at the end of 1955 as a part of the United Kingdom Civil Series of books dealing with the history of the Second World War. The book is 736 pages, cloth bound, and is published jointly by H. M. Stationery Office, and Longmans, Green & Co. It may be obtained from H. M. Stationery Office, York House, Kingsway, London W.C. 2, England, for 1 pound 17 shillings and sixpence, net, or in the United States from British Information Services, 30 Rockefeller Plaza, New York 20, New York, for $5.63 postpaid. It is also available from Longmans, Green & Co., which has offices in London, Cape Town, Melbourne, Toronto and New York, and at book stores.

The author acknowledges the assistance of Sir Arthur Dixon who was in charge of the British National Fire Service and active in the discussions leading up to its organization. The sections of the book on the experiences with the auxiliary fire service in the early days of the war and the organization of a wartime fire service are of importance in connection with fire department organization plans for emergencies. The British war emergency showed clearly how the interests of municipalities and the state conflicted in the setting up of measures for fire department operation in wartime. These were resolved in favor of the state. The book explains two important civil defense fire problems which have been almost wholly ignored in the planning of civil defense in the United States and Canada, namely, emergency water service and fire guards.

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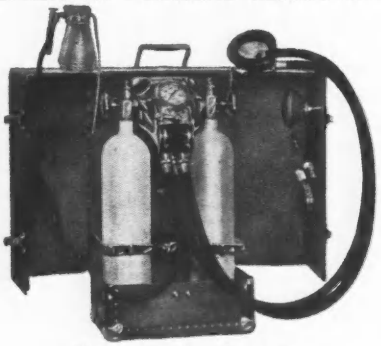

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Represented in Canada by WILSON & COUSINS, Toronto

Useful Bibliography

FREQUENTLY the NFPA Executive Office receives requests for information on books which give general information of the history of fire protection and fire prevention. Readers of FIREMEN magazine may wish to keep the list printed below for permanent reference. It itemizes some of the more popular books on these subjects. The more recent editions may be purchased from the publishing houses. Others may be obtained through local public libraries.

Ashbury, Herbert: Ye Olde Fire Laddies. 184pp. illus. New York, Alfred Knopf, 1930

Bullou, Alwin E.: Footprints of Assurance, 319pp. New York, The Macmillan Co., 1953

Costello, A. E.: Our Firemen. 1112pp. New York, Augustine E. Costello, 1887

Crocker, Edward F.: Fire Prevention. 354 pp. New York, Dodd, Mead, 1942

Dana, D. D.: The Fireman. 367pp. Boston, James French & Co., 1858

Dougherty, Thomas F. and Paul W Kearney: Fire. 245pp. New York, G. P. Putnam's Sons, 1931

Dunshee, K. H.: Engine! Engine! New York, Harold Vincent Smith, Home Insurance Company, 1939

Dunshee, K. H.: As You Pass By. 270pp. New York, Hastings House, 1952

Kenlon John: Fire and Fire Fighters. 1913

Limpus, Lowell M.: History of the New York Fire Dept., 380pp. New York, E. P. Dutton, 1950

Masters, Robert V.: Going to Blazes, 143pp. New York, Sterling Publishing Co., 1950

Morris, John V.: Fires and Firefighters, 393pp. Boston, Little, Brown & Co., 1955

Get a copy of **Aviation Bulletin No. 142**

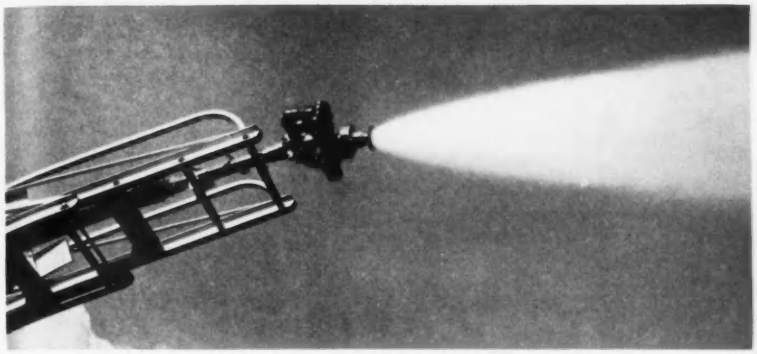
LARGE LOSS AIRCRAFT FIRE ACCIDENTS of 1955

32 pages, 8½ by 11 in., $2.00 per copy

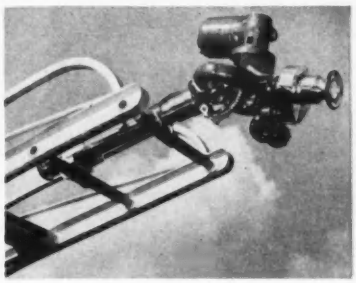
Write to:

NATIONAL FIRE PROTECTION ASSOCIATION

60 Batterymarch St., Boston 10, Mass.



"Remote Control" Ladder Pipe



AN INTERESTING development in ladder pipe equipment has been made by Akron Brass Manufacturing Company, Inc., Wooster, Ohio. It features a motor-driven ladder pipe that permits raising or lowering of the pipe and control of the fog nozzle through all positions simply by operating switches on the electric control panel. Primarily, the equipment is designed to minimize the necessity of having a fire fighter on the fly of the ladder to operate the pipe. It was demonstrated at the recent fire department instruction conference in Memphis, Tennessee, and will be shown at other fire service meetings this year. For detailed information write to Sales Manager Ray J. Kubec in care of the company at the above address.

A Question and Answer on CARBON MONOXIDE

Dear Sirs:

Ten lines up from the bottom of page 396 in the 11th Edition of the NFPA Handbook, it states that water has no effect on carbon monoxide fumes.

I am studying for promotion and up until now had believed that carbon monoxide was soluble in water, with the water absorbing its poisonous fumes.

Would you please give me further information on this point?

Sincerely yours,
Fireman Edward Warminski
Philadelphia, Pennsylvania.

Dear Mr. Warminski:

It is true that a small amount of carbon monoxide can be dissolved in water, but the amount is very small as compared with the soluble amount of other gases. For example, only 3.5 cubic centimeters of carbon monoxide can be absorbed in 100 cubic centimeters of water at 0 degrees Centigrade, as compared with 171.3 cc of carbon dioxide per 100 cc of water at 0 degrees C; 437 cc of hydrogen sulfide per 100 cc of water at 0 degrees C and 310 cc of chlorine in 100 cc of water at 10 degrees C. When the very low solubility of carbon monoxide in water, and the very small quantities of this gas in air that can cause death are taken into consideration, it can be seen why water absorption is not an effective means of protecting fire fighters from this gas.

Very truly yours,
Chester I. Babcock, Staff Chemist.

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A touch of the button on top of the F.O.B. container brings instant relief to painful burns from sun, fire, electricity or scalds. F.O.B. aids healing and protects against infection. It is non-toxic, non-irritating, and can be safely sprayed on any part of the body.

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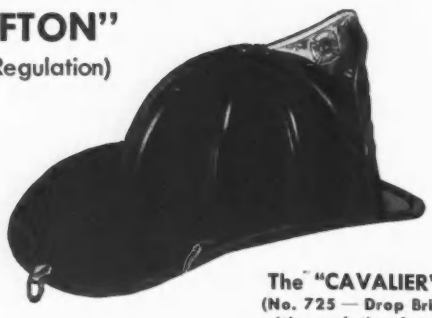
The "CLIFTON"
(No. 900 — Regulation)



The "CAVALIER"
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Regulation 8-comb style, or drop brim style with standard front; made of FLINT-FLEX, the rugged plastic that is light, tough, flexible and non-conducting; has the new FORMABLE HEAD BAND that can be moulded to your own particular head shape; complete protection at moderate cost. Other CAIRNS HELMETS in leather and aluminum.

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CAIRNS & BRO., Inc. — Allwood, Clifton, N. J.

Detroit, Michigan, May 2. Fire loss was estimated in the vicinity of $1,000,000 when this six-story building became involved. The structure housed Detroit's largest confectionery company. Fire fighting demanded extensive use of ladder pipes and heavy stream equipment. *(Associated Press Wirephoto at left, Wide World Photo at right.)*

Arson Conference

THE Fifth Annual Arson and Fire Prevention Conference is scheduled to be held at the Roosevelt Hotel, New Orleans, Louisiana, July 10–12. Information may be obtained from State Fire Marshal Sidney S. Bowman, 110 New Court House Building, New Orleans, La.

SALES TERRITORIES OPEN

Several choice territories are still available to qualified representatives to handle sales of Fire Trucks, Tankers, Emergency Cars, etc., manufactured by:

Sharpsville Steel Fabricators, Inc.
Sharpsville, Penna.

See why the big switch is to FYR-FYTER SUPER FYR-FLEX

Fire departments from coast to coast are replacing conventional cotton rubber-lined hose with Super Fyr-Flex made with Dacron* polyester fiber filler cord . . . and here's why:

1. Fyr-Fyter's Super Fyr-Flex is 15 to 20% *lighter* . . . it's easier and faster to put into action!

2. It's three times *stronger* . . . withstands 50% greater pressure! Available in 600 and 400 lb. test.

3. Super Fyr-Flex *dries out faster* . . . it picks up less than 1% of moisture compared to 48% by ordinary cotton hose. It's lighter wet or dry!

4. It's *more flexible* and *less bulky* . . . easier to handle, and packs into less space!

5. Super Fyr-Flex has much *greater resistance* to heat, chemicals, acids, mildew and abrasion!

All these benefits add up to *greater performance, longer service* and *more economy.*

See a sample of Super Fyr-Flex soon. . .

CALL A FYR-FYTER REPRESENTATIVE TODAY . . .
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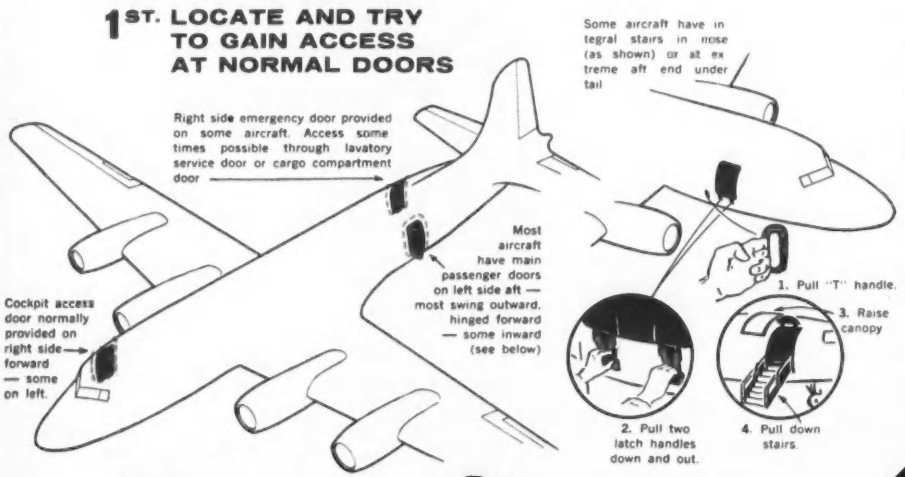
NFPA Chart 403-1A
15 cents*

PRINCIPLES OF RESCUE — Civil Aircraft

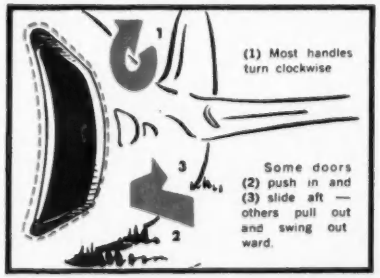
1ST. LOCATE AND TRY TO GAIN ACCESS AT NORMAL DOORS

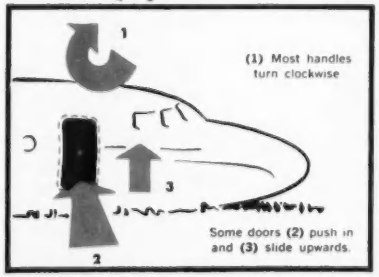

Some aircraft have integral stairs in nose (as shown) or at extreme aft end under tail
Right side emergency door provided on some aircraft. Access sometimes possible through lavatory service door or cargo compartment door
Most aircraft have main passenger doors on left side aft — most swing outward, hinged forward — some inward (see below)
Cockpit access door normally provided on right side forward — some on left.
1. Pull "T" handle.
2. Pull two latch handles down and out.
3. Raise canopy
4. Pull down stairs.

NOTE

This chart illustrates basic principles to speed evacuation and rescue of occupants. Investigate special features of aircraft operated at your airport.

Some aircraft have emergency slide escapes at main doors. Some slides must be held at ground level — others are self-inflatable. Passengers should jump into slide.





2ND. LOCATE AND TRY TO OPERATE WINDOW EXITS

Some emergency window exits have this type red handle — (1) pull out (2) pull down and rotate while still pulling.

NOTE

Emergency window locations vary. Location can be recognized by outline of joint between hatch and fuselage and by marking of release devices similar to those shown. Investigate special features of aircraft.

Other emergency windows operate like this → or this → or this

Some windows have bars to lift and pull — then push.

Some windows have rings to pull — then push-in.

Some windows have buttons to push.

Published by the National Fire Protection Association, 60 Batterymarch St., Boston 10, Mass., U.S.A., Copyright 1956
In cooperation with Flight Safety Foundation
Printed in U.S.A.

See NFPA Chart 403-1B

*Discounts for over 25

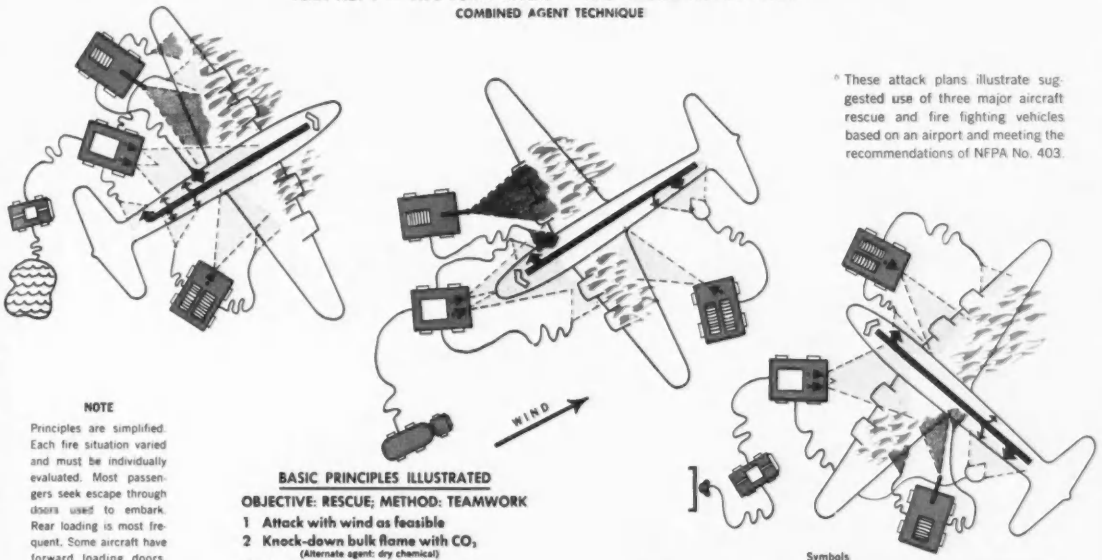
FOR YOUR TRAINING PROGRAM

The charts on these pages are two of a set of four useful training items, recently prepared by George H. Tryon, III, Secretary, NFPA Committee on Aviation and Airport Fire Protection. The 10 by 14 in. cards are priced at 15 cents each, or 60 cents for a complete set. Discount of 25 per cent is allowed for quantity orders of 25 or more. Write to NFPA Publications Department for NFPA No. 403 1A and 1B (rescue) and No. 403 2A and 2B (fire fighting).

NFPA Chart 403-2A
15 cents*

PRINCIPLES OF FIRE FIGHTING – Civil Aircraft

PLAN NO. 1 — TWO FOAM TRUCKS — ONE CARBON DIOXIDE TRUCK*
COMBINED AGENT TECHNIQUE



* These attack plans illustrate suggested use of three major aircraft rescue and fire fighting vehicles based on an airport and meeting the recommendations of NFPA No. 403.

NOTE

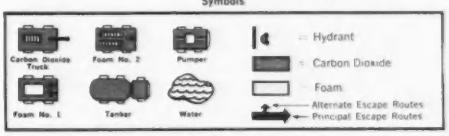
Principles are simplified. Each fire situation varied and must be individually evaluated. Most passengers seek escape through doors used to embark. Rear loading is most frequent. Some aircraft have forward loading doors. The primary rescue efforts should be made at such openings. See NFPA Charts No. 403-1A and No 403-1B

BASIC PRINCIPLES ILLUSTRATED

OBJECTIVE: RESCUE; METHOD: TEAMWORK

1. **Attack with wind as feasible**
2. **Knock-down bulk flame with CO_2**
   (Alternate agent: dry chemical)
3. **Protect fuselage with foam cover**
4. **Prepare rescue path (even if against wind)**
5. **Cut-off fire at wing root**
6. **Arrange backup water and foam supplies**

Symbols

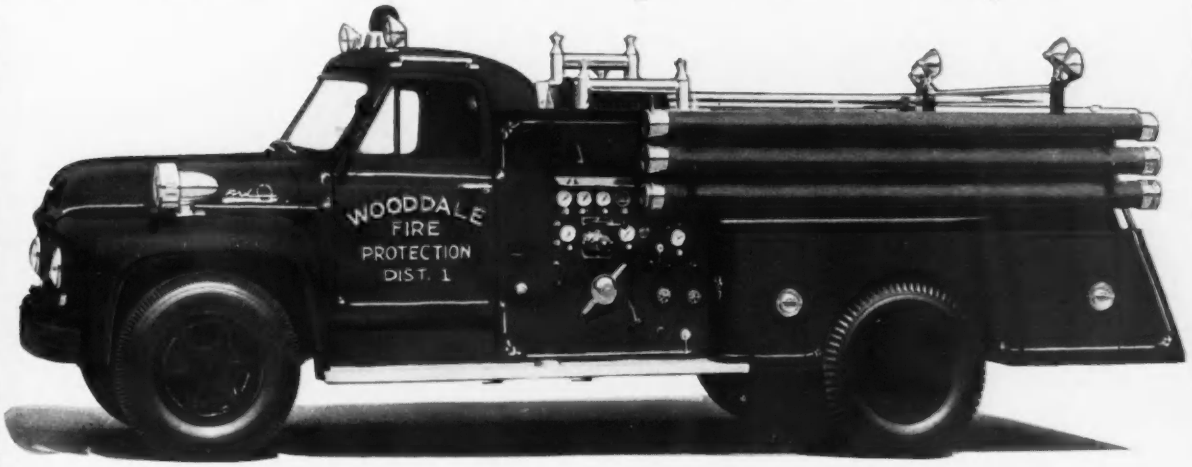


Published by the National Fire Protection Association, 60 Batterymarch St., Boston 10, Mass., U.S.A., Copyright 1956
In cooperation with Flight Safety Foundation

Printed in U.S.A.

See also NFPA Chart 403-2B
*Discounts for over 25

750 Gallon Darley Ford Pumper



The pump is the Darley Champion Type SH750 manufactured exclusively by W. S. Darley & Co. and used on all Champion Fire Apparatus. A 3-stage centrifugal with superior engineering features which guarantee brilliant performance throughout the entire range of pumping requirements for fire fighting.

The SH Series Champions are double duty fire pumps which provide the complete range of volume performance for heavy streams plus the fire smashing efficiency of high pressure fog with 60 gallons per minute at 850 lbs. of pressure at the pump. Actual tests show the SH pump develops pressure to 1,000 lbs.

Write for Fire Equipment Catalog and Fire Apparatus Booklet

AT YOUR SERVICE: Sales and Service Representatives — East, Midwest, North, South

You'll want to know all about our low cost finance plan or combination PURCHASE-RENTAL plan.

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SENSIBLE

FOR ALL YOUR HOSE CONNECTIONS

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SENSIBLE LUG COUPLINGS

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QUALITY *and* **SAFETY**

The improved Powhatan "Sensible-Lug Couplings" are precision tooled and manufactured of only the best high-grade materials. They set a standard that is "tops" in this specialized field of fire-fighting equipment. The curved surfaces of this modern coupling enable the hose to glide easily over all obstructions, thus preventing snagging, an important safety and economical feature appreciated by those who know.

SPECIFY "SENSIBLE" LUG COUPLINGS ON YOUR NEXT HOSE ORDER

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Established 1892

Fight Brush Fires From Moving Truck with a Hale Type FZZ

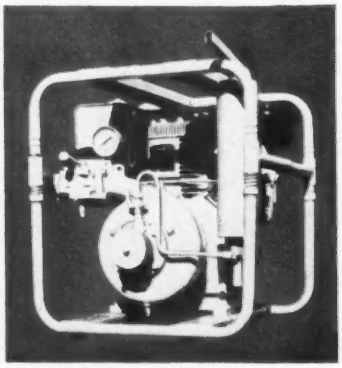
PORTABLE PUMPING UNIT!

Picture below shows fire fighter handling stream from a Hale Type FZZ Portable Pumping Unit mounted on a moving truck. An FZZ can be mounted permanently on truck or carried as a portable unit for pumping into or *from* booster tank. This portable arrangement is extremely useful both for fighting brush, field or forest fires while in motion; or for pumping from pond, stream or well direct.

An FZZ will supply from draft 2 capable fire streams thru 1½" lines. Performance substantially exceeds NBFU and NFPA capacity and pressure requirements.

A frame-mounted FZZ (with carrying handles turned in) is pictured at right. Also available mounted on two wheels or on rubber-cushioned steel channels. **Note:** Discharge Adapter can be supplied for use with 2½-inch hose.

**Write today for new FZZ Folder.*
Let us know if you want a demonstration.



HALE FIRE PUMP CO.
Conshohocken, Pa.
Fire Pumps in All Standard Capacities

Nip Brush Fires in the Bud with a HALE FZZ

Members of the Hutchinson, Kansas, Fire Department posting a marker on a dwelling which houses an invalid.

Colorful Strip for Invalids

CHIEF F. R. Dimond of the Hutchinson, Kansas, Fire Department writes to report another successful project. Recently, members of the department began posting brightly colored aluminum strips on every dwelling where there was an invalid or handicapped person. (Sample illustrated at right.) The strip is made simply by fastening a piece of "Scotch Lite" tape to a 1½ by 8 inch piece of aluminum, which has holes at top and bottom for nailing.

Chief Dimond states that the response of the community was quite gratifying. The fire fighters have already posted 122 dwellings and the department has received considerable praise from local newspapers and "shut-in" clubs. The news story was featured on Associated Press dispatches and has brought inquiries from many fire departments and civic organizations.

A similar, successful program has been conducted for a number of years by the Silver Spring, Maryland, Fire Department, which features a big, red letter "I" on a card which can be displayed in windows of homes where there are invalids. We'll be glad to hear from other fire departments who have developed this useful type of public relations.

Are You Training a Junior Fire Brigade?

A lumber company that retains membership in NFPA has written to FIREMEN magazine, requesting information on a particular fire protection problem.

It seems as though the company

operates in an isolated area. It has a well-trained industrial fire brigade to protect company property and nearby dwellings of the community. However, since this brigade is the only organized fire department unit, there exists the possibility that fire may break out in one section of the company property, or the community, while the brigade is fighting another fire some distance away.

As a partial solution to this problem, the company has trained youths under 17 years of age who serve as an auxiliary fire brigade. So far, these youngsters have performed commendably, but the company would like to hear from any other industries or concerns or any community fire departments who have trained similar auxiliary fire fighting groups of this age.

If you have conducted or participated in such training, send a note to FIREMEN magazine. Explain the organization and operation of your junior auxiliary fire brigade training procedures and any special problems or other pertinent details. Replies will be forwarded to the company, and if the editors of FIREMEN receive sufficient response, a survey of such auxiliary organizations will appear in the magazine in the near future. Write to Box F6, NFPA Executive Office, 60 Batterymarch Street, Boston 10, Mass.

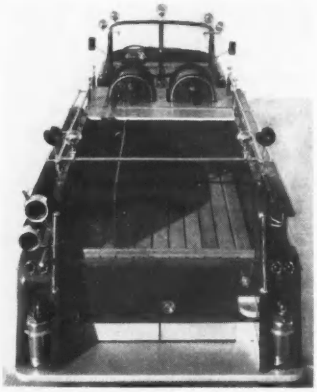
National Fire Codes

CHIEFS of NFPA member fire departments are reminded that the 1956 editions of the National Fire Codes are scheduled for delivery in September. In order to secure the copy available without charge as part of membership service, NFPA members must indicate the volume they want at the time of paying membership dues. Simply check the appropriate boxes in the renewal blank.

The 1956 editions will contain all NFPA technical standards, including new and revised standards adopted during the 1956 meeting of the Association this month. (See page 10.) The National Fire Codes include:

Volume I — Flammable Liquids and Gases; Volume II — Combustible Solids, Dusts, Chemicals and Explosives; Volume III — Building Construction and Equipment; Volume IV — Extinguishing Equipment; Volume V — Electrical; and Volume VI — Transportation.

THEY
LOOK ALIKE
BUT THERE'S
ONE
IMPORTANT
difference
You can buy drills in the dime store . . . or pay thousands of dollars for a diamond drill.
They *look* alike . . . but the difference is in the job you want your drill to do.
Fire hose spends most of its life hanging on racks but you certainly don't buy it because it looks good hanging there . . . or *do* you?
You can't get Bi-Lateral Fire Hose in the dime store — for bargain prices. But Bi-Lateral is still your best bargain for the job you want to do — that's the important difference in fire hose!
THE *SAFEST* INVESTMENT IS BI-LATERAL FIRE HOSE... IT COSTS *LESS* TO BUY THE BEST!
If you want *safety* AND *savings*, one way to be *sure* is to *look at the record!*
Bi-Lateral furnishes *FREE* hose record cards — send for your supply today.
Here's a sample piece of fire hose — it looks just like the piece below — yet . . .
This fire hose is worth 10 times — maybe 1,000 times — as much!
Bi-Lateral hose is built *up* to a standard not *down* to a price! There's a reason for Bi-Lateral — it's to put out fires! It will prove to be your most *economical* purchase as well as your *safest* investment!
(Bi-Lateral *IS* cheaper *in the long run*. Hose record cards prove it! Send for yours . . . free.)
Bi-Lateral® FIRE HOSE CO.
20 NORTH WACKER DRIVE • CHICAGO 6, ILLINOIS



Pumper for East Rutherford

This new 1,000 gpm Ahrens-Fox pumper was delivered to the East Rutherford, New Jersey, Fire Department in March of this year. The Department is headed by Chief Harold Tilton. The pumper has a 250-gallon tank and a divided hose bed which carries from 800 to 1,000 feet of 1½- and 2½-in. hose. Note twin booster reels, dual headlights and curved windshield. The pumper was made by C. D. Beck & Company of Sidney, Ohio, manufacturers of inter-city type buses for more than twenty years. Since 1953 the company has been producing a complete line of this type of motor fire apparatus.

EMERGENCY
POWER
when you need it with a
WIND POWER
PORTABLE ELECTRIC PLANT
500 To 2250 WATT
WITH CARRYING HANDLES
Operates smoke ejectors, flood lights, pumps and radio during fire emergencies. Lives can be saved when you are equiped with Portable Electric Power. Also permanent station installations with automatic line transfer controls which automatically cuts in stand-by power during failure or disaster. Investigate now—write for full information, illustrated folders and prices.
OTHER MODELS UP TO 100 KW
WINPOWER
MFG. CO.
Dept. G76, Newton, Iowa

New Instructor at Purdue

NORBERT LEHMAN, formerly a fire captain in the Syracuse, New York, Fire Department, has been appointed fire training instructor at Purdue University. Announcement of the appointment was made recently by Professor Shelby Gallien, Director of the Public Safety Institute. The University's fire training program is conducted with the cooperation of the Indiana Rating Bureau and the State Fire Marshal's Office.

A native of Syracuse, Lehman graduated from Syracuse University with a Bachelor of Science degree in education. He joined the fire department in that city in 1942 and served until his appointment to the Purdue staff, with the exception of three years in the Navy. From 1943 to 1946 he was an instructor in various Navy fire fighting schools. He became lieutenant in the Syracuse fire department in 1947 and was made captain in 1949. He taught as a part-time instructor in the city's high schools for three years.

New Members in NFPA

The following fire chiefs and fire departments recently joined the Association. Current NFPA Fire Department membership totals 2,271 departments and 26,686 men.

Illinois: Broadview Fire Department, Broadview.

Kansas: Mission Twp. Fire District No. 3, Prairie Village.

Louisiana: Iowa Volunteer Fire Department, Iowa.

Massachusetts: Arlington Fire Department, Arlington; Leominster Fire Department, Leominster.

Michigan: Plainwell Fire Department, Plainwell.

New Hampshire: Silver Lake Hose Company No. 1, Warner.

New Jersey: Defender Fire Company No. 1, Audubon; Holmes Marshal Volunteer Fire Company, New Brunswick.

New York: New Salem Volunteer Fire Department, Inc., Voorheesville.

North Carolina: Chief E. M. Dixon, City of Winston-Salem Fire Department, Winston-Salem.

Nova Scotia: Chief Gordon Gates, Port Williams Fire Department, Port Williams; Waterville-Cambridge-Grafton Fire Department, Waterville.

Pennsylvania: Emmaus Volunteer Fire Company No. 3, Emmaus.

Warren, R. I. goes WARD LaFRANCE

Adds Model 85T to its fire-fighting forces

MEET THE NEWEST MEMBER of the Warren, R. I. fire department! It's Ward LaFrance Model 85T . . . a triple combination pumper especially designed for village, town and suburban use.

Fast, flexible and tough, this Ward LaFrance pumper will give any community . . . yours included . . . long reliable service at moderate cost. The 85T is built to climb hills at high speed, is thoroughly at home when the going gets tough summer or winter.

Its big, powerful, seven-bearing crankshaft motor will withstand long hours of heavy pumping loads. Standard equipment consists of 250 gallon capacity booster tank, 150' of booster hose, Waterous 750 g.p.m. pump. Call in the Ward LaFrance representative in your area...let him help you select equipment that suits your community's needs.

NEW ENGLAND AGENT:
Ira A. Ballou, Jr.
178 Adams Point Road
Barrington, R. I.

WARD LA FRANCE TRUCK CORPORATION

Fire Apparatus Manufacturers for over 38 Years

GENERAL OFFICE & FACTORY: Grand Central Avenue, Elmira, N.Y. Tel. 3-5631. **DIRECT FACTORY BRANCH:** 139th Street & Bruckner Blvd., New York 54, N.Y., Tel. CYpress 2-3300. **EXPORT:** Ward LaFrance International, Inc., Elmira, N.Y., U.S.A., Cable Address: "Wardtruck"

NEW FIRE EQUIPMENT, CATALOGS & BULLETINS

Portable Generators

Eight new AC and DC portable gasoline engine-driven generators have been introduced by Master Vibrator Company, 264 Stanley Avenue, Dayton 1, Ohio. These models, in 750 watts, 1500 watts, 3 KW and 5 KW capacities, have direct-connected engine and generator, and automatic pilot lights. They feature inherent voltage regulation, are shock mounted for minimum vibration, and equipped with air-cooled engines and automatic governors. Radio shielding is available on all models. For details write to the manufacturer at the above address.

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Portable Radio

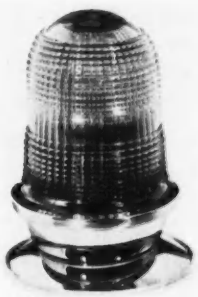
A hand-carried portable radio measuring 10 by 4½ by 9¾ inches has been announced by Industrial Radio Corporation, 428 N. Parkside Avenue, Chicago 44, Illinois. Weighing only 11 pounds with batteries, the new Model H/M Pak-Fone features loud speaker operation, relay operated squelch system, volume control and an on-off indicator light. A power cable connector is also provided for external power supply. The unit operates from 6, 12 and 24-volt storage batteries and 117 volts AC. Manufacturer claims that its performance meets all FCC and FCDA requirements for municipal and industrial portable radio instruments. Write to the above address for prices and further information.

Fire Equipment Catalog

A new 96-page free catalog is available upon request to the Sales Department, Wooster Brass Division, Wooster 2, Ohio. It illustrates and describes the uses for various components used in hose line assemblies. It may be helpful to fire instructors for explaining hose evolutions and standard fire fighting practices. An engineering section in the back provides additional useful information.

A new 32-page catalog illustrating their complete line of badges and uniform accessories for fire and police departments is available on request to *Nielsen-Rionda, Inc.*, 40 John St., New York 38, N. Y. . . . *Van Loon Sheet Metal Works*, 3409 East McNichols Rd., Detroit 12, Mich., announces an all-steel hydrant house for new industrial plants and for replacement of existing wooden houses as they wear out. . . . Long life and durability under severe conditions is claimed for "NICAD's" nickel cadmium pocket plate storage battery. Write to *Nickel Cadmium Battery Corp.*, 72 Pleasant St., Easthampton, Mass. . . . For your free copy of Lloyd Layman's "Water — The Universal Extinguishing Agent" 12-page booklet, write to *Elkhart Brass Mfg. Co., Inc.*, 1302 W. Beardsley Ave., Elkhart, Ind. . . . A new, lightweight portable public address unit, battery powered, is now marketed by *Radionic Industries*, 321 W. Hubbard St., Chicago 10, Ill. . . .

Fire resistant and long-life stage curtains, window drapes and room-darkening curtains made from pliable fiberglas cloth are described in a new folder available from *Duracote Corp.*, Ravenna, Ohio. . . . Look into *Delco-Remy's* "piggy-back" generator installation kit as a low cost method of obtaining extra electrical power — available through G.M. car and truck dealers, and United Motors System outlets. . . . A four-page illustrated data sheet on industrial fire hose is available free from *The B. F. Goodrich Co.*, Industrial Products Div., Akron 18, Ohio. . . . *Orthopedic Frame Co.*, 420 Alcott St., Kalamazoo, Mich., announces a new, comfortable, easy-to-apply "Stryker Emergency Splint."



New Flashing Light

A new type of 360 degree flashing light called the "Busy Bee" has been announced by Trippe Mfg. Company, 133 North Jefferson St., Chicago 6, Illinois. It employs a spring mounted bulb which vibrates with the motion of the vehicle, for flashing effect. The light is more than 7 inches high and can be supplied with red, blue or amber lenses. Ask manufacturer for prices and further information.

You start neat, *stay* neat in a durable, lightweight uniform of "Dacron" and wool

There's nothing like neat appearance to create a favorable impression—and nothing like uniforms of "Dacron"* and wool to make that impression last! These comfortable, tropical weight uniforms hold a press through steaming summer days, even wet weather. And their resistance to wrinkling will keep you looking your best through the most active service.

Upkeep costs stay low with uniforms of "Dacron" polyester fiber and wool. Fewer pressings are needed, and many spots can be easily removed with a damp cloth. Extra durable, too. Rugged "Dacron" gives uniforms a long economical service life . . . cuts replacement costs.

These long-wearing, lightweight uniforms offer something new in comfort and convenience. Be sure to see your supplier about them. You'll welcome the practical, stay-neat advantages of "Dacron"!

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BETTER THINGS FOR BETTER LIVING
. . . THROUGH CHEMISTRY

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Textile Fibers Department
Wilmington 98, Delaware

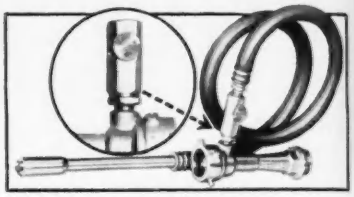
*"Dacron" is Du Pont's registered trademark for its polyester fiber.

The FW Eductor is a *discharge* side proportioner. Comes in 1½" and 2½" sizes. They operate efficiently on pressures ranging from 75 to 175 p.s.i. at the Eductor inlet.

FFF Nozzle comes with Foam screen and solid Foam stream shaper.

SG-60 Nozzle with FF extension unit.

Rockwood Eductors are designed for use with both the Rockwood FFF nozzle and the SG-60 nozzle with FF extension unit. SG-60 is an all-purpose nozzle that fights fires 5 ways — high velocity WaterFOG, low velocity WaterFOG (with applicator), FogFOAM, solid stream of water or of FOAM, FF extension unit discharges Rockwood FOAM in a solid stream or as FogFOAM, and covers large areas at one time.



The Variable FW Metering-Check Valve on the Rockwood Eductor is highly versatile, and is furnished with each FW Eductor. It incorporates both the Metering Valve and Ball Check Valve in one unit, and meters liquid into the hose line in any proportion from 1% through 6%.

Two for the road!

Protect against flammable liquid fire due to tank truck accidents

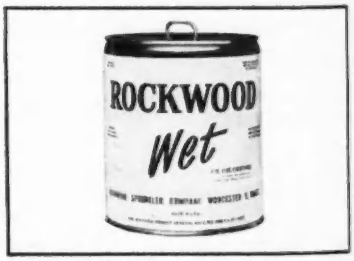
With more traffic on congested highways, more filling stations, more and more gasoline tank trucks in daily service, *your* municipality is in greater danger of a flammable fuel fire than it has ever been before. A sudden crash of a tank truck passing through your city streets tomorrow could confront you with a difficult-to-control flammable liquid fire.

The use of Rockwood FW Eductor reduces the danger of disastrous losses due to such a fast-spreading fire. Developed for operation with Rockwood's FFF nozzle and SG-60 nozzle with FF extension unit, the FW Eductor introduces Rockwood regular 6% FOAM liquid, Double-Strength 3% FOAM liquid or WET (1% or 2%) into the hose line, quickly controlling and extinguishing flammable liquid and other fires.

Rockwood FW Eductor is the simplest form of proportioning you can buy. Ideal for municipal fire departments, oil refineries and industrial plants, it can be attached between discharge gate of a fire truck and hose line, or between hydrant and hose line, or between two lengths of hose.

Be prepared. Put this great fire fighter to work for you. Specify Rockwood FW Eductor when you order a fire truck.

Rockwood Double-Strength Foam Liquid, 3 parts mixed with 97 parts water, forms a solid FOAM blanket that quickly re-seals itself. Available in 5-gallon or 50-gallon drums.



Rockwood WET, 1 part mixed with 99 parts water, increases penetration and extinguishing action of water. Excellent for deep seated fires or where water is scarce. Can be used in proportions of 1% or 2% by volume for Class A and B fires. Available in 5-gallon cans or 50-gallon drums.

ROCKWOOD SPRINKLER COMPANY

Engineers Water . . . to Cut Fire Losses

PORTABLE FIRE PROTECTION DIVISION • 1521 Harlow Street, Worcester, Mass.

DISTRIBUTORS IN ALL PRINCIPAL CITIES

NEW FOILLE AEROSOL SPRAY

...speeds and simplifies

BURN TREATMENT

Instant application of the dressing to the burned area, regardless of size or location, is the first need in burn emergencies. You answer this need the minute you install the new Foille Aerosol Spray in your operation.

At the touch of a finger, this handy device sprays a cool, soothing mist of Foille over the injured area in seconds. The aerosol action directs the Foille to the injury no matter where it is located. This eliminates the painful and time-consuming methods required for applying salve-type dressings.

The aerosol spray technique lets Foille start its work faster, more effectively. Foille's antiseptic and cleansing action reduces the chance of infection—shortens healing time.

NEW FOILLE BURN KIT

This kit contains four 10-ounce Foille Aerosol Sprays, easy-to-use Type D first aid dressings and accessories. This material is stored in an All-Weather case of 20 gauge steel. Continuous piano-type hinge with stops, mounting brackets, and complete instructions make it ideal for quick, easy use in burn emergencies.

M-S-A Foille Burn Kit, Aerosol Spray Type, complete, **FA-12945**
Foille Aerosol Spray (10-oz.).....**FA-35241**

Place your order today!

MSA
SAFETY EQUIPMENT HEADQUARTERS

Call the M-S-A man on your every safety problem . . . his job is to help you

MINE SAFETY APPLIANCES COMPANY
201 North Braddock Avenue, Pittsburgh 8, Pa.
At Your Service: 76 Branch Offices in the United States

MINE SAFETY APPLIANCES CO. OF CANADA, LTD.
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Check the Occupancy Fire Records you want and mail this easy-order form.

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.....FR 54–7. Department Stores — 8 pages
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.....FR 55–6. Oil Extraction Plants — 12 pages
.....FR 55–7. Cotton Warehouses — 8 pages
.....FR 55–8. Bakeries — 8 pages
.....FR 55–9. Gasoline Service Stations — 8 pages
.....FR 56–1. Motion Picture Theatres — 16 pages
.....FR 56–2. One- and Two-Family Dwellings — 16 pages

. . . All of the above fire records ($8.00)

FB-6-56

National Fire Protection Association
60 Batterymarch St., Boston 10, Mass.

Gentlemen: Please send me copies of the Occupancy Fire Records checked above:

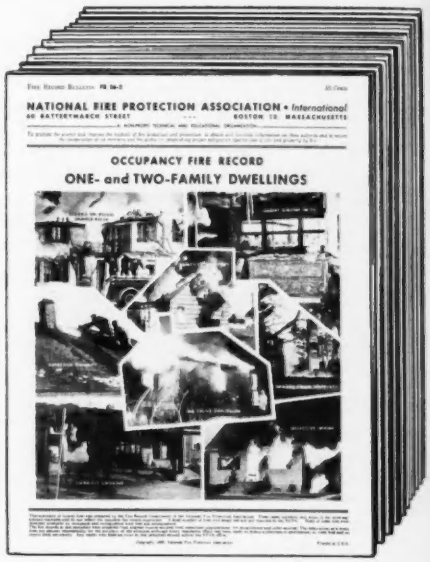
Name .....

Address .....

City or Town ..... County .....

State .....

☐ **Enclosed find check or money order for $**..... ☐ **Please send bill**



How to use these Occupancy Fire Records

First, make certain that your fire station gets the complete set, listed at left, for only $8.00. Then select one of these useful 8½- by 11-in. booklets.

Study the numerous fire reports and pictures for quick understanding of the fire protection weaknesses and fire fighting problems. Then examine the tables on the back pages. These summarize the principal fire causes, factors contributing to fire spread and to fire deaths, and common or special hazards involved. All of these details are important to you as a member of the fire service.

Let's say that you've studied the latest Occupancy Fire Record FR 56–2 — "One- and Two-Family Dwellings." You then can shape a practical and effective educational program of fire prevention for all dwelling owners in your community. Barrage them with these authentic case histories of dwelling fires caused by smoking and matches, flammable liquids, heating and electrical equipment, and other appliances. Show them the tragic reports describing what happened to unattended children. Use your special knowledge to stimulate safe practices against fire.

You can apply all of these Occupancy Fire Records to good advantage. Order your copies today.

Single copies are priced at 50 cents each, with discounts allowed for quantity purchases. The entire set of 20 listed at left may be obtained for a limited time for only $8.00!

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